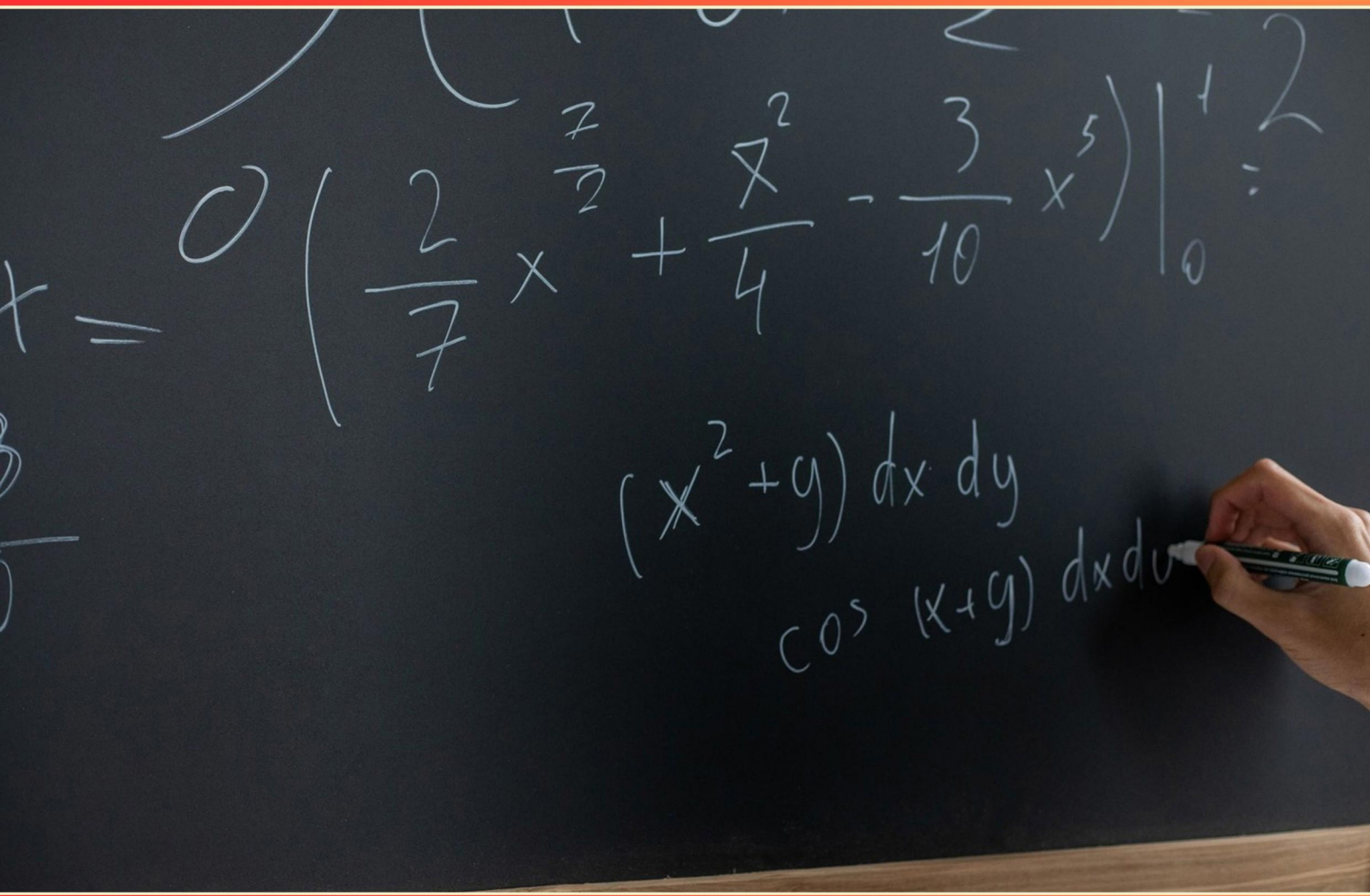
SHORMANN ALGEBRA 1 RULES & DEFINITIONS QUARTERLY EXAM 1 PRACTICE (SAMPLE)

STUDY GUIDE



SAMPLE STUDY GUIDE WITH LIMITED QUESTIONS

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Introduction

Preparing for a certification exam can feel overwhelming, but with the right tools, it becomes an opportunity to build confidence, sharpen your skills, and move one step closer to your goals. At Examzify, we believe that effective exam preparation isn't just about memorization, it's about understanding the material, identifying knowledge gaps, and building the test-taking strategies that lead to success.

This guide was designed to help you do exactly that.

Whether you're preparing for a licensing exam, professional certification, or entry-level qualification, this book offers structured practice to reinforce key concepts. You'll find a wide range of multiple-choice questions, each followed by clear explanations to help you understand not just the right answer, but why it's correct.

The content in this guide is based on real-world exam objectives and aligned with the types of questions and topics commonly found on official tests. It's ideal for learners who want to:

- Practice answering questions under realistic conditions,
- Improve accuracy and speed,
- Review explanations to strengthen weak areas, and
- Approach the exam with greater confidence.

We recommend using this book not as a stand-alone study tool, but alongside other resources like flashcards, textbooks, or hands-on training. For best results, we recommend working through each question, reflecting on the explanation provided, and revisiting the topics that challenge you most.

Remember: successful test preparation isn't about getting every question right the first time, it's about learning from your mistakes and improving over time. Stay focused, trust the process, and know that every page you turn brings you closer to success.

Let's begin.

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How to Use This Guide

This guide is designed to help you study more effectively and approach your exam with confidence. Whether you're reviewing for the first time or doing a final refresh, here's how to get the most out of your Examzify study guide:

1. Start with a Diagnostic Review

Skim through the questions to get a sense of what you know and what you need to focus on. Your goal is to identify knowledge gaps early.

2. Study in Short, Focused Sessions

Break your study time into manageable blocks (e.g. 30 – 45 minutes). Review a handful of questions, reflect on the explanations.

3. Learn from the Explanations

After answering a question, always read the explanation, even if you got it right. It reinforces key points, corrects misunderstandings, and teaches subtle distinctions between similar answers.

4. Track Your Progress

Use bookmarks or notes (if reading digitally) to mark difficult questions. Revisit these regularly and track improvements over time.

5. Simulate the Real Exam

Once you're comfortable, try taking a full set of questions without pausing. Set a timer and simulate test-day conditions to build confidence and time management skills.

6. Repeat and Review

Don't just study once, repetition builds retention. Re-attempt questions after a few days and revisit explanations to reinforce learning. Pair this guide with other Examzify tools like flashcards, and digital practice tests to strengthen your preparation across formats.

There's no single right way to study, but consistent, thoughtful effort always wins. Use this guide flexibly, adapt the tips above to fit your pace and learning style. You've got this!

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Questions

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1. A collection of facts and information recorded during an experiment, from which conclusions and decisions can be made is called what?

A. Theory

B. Hypothesis

C. Model

D. Data

2. What term describes three-dimensional figures such as polyhedra, cones, cylinders, and spheres?

A. Plane

B. Line

C. Solid

D. Curve

3. A pair of numbers written in a specific order used to identify a point on the coordinate plane has the form (x,y). This is called a?

A. Function

B. Indeterminate

C. Undefined

D. Ordered Pair

4. What is the formula for the circumference of a circle in terms of its radius?

A. 2πr

B. πr^2

C. πd

D. 2r

5. For a non-strict inequality such as y ≥ mx + b, the boundary line is drawn as which style?

A. Dashed

B. Dotted

C. Wavy

D. Solid

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6. Also called a coordinate plane, it features a horizontal x-axis and vertical y-axis and is used to graph ordered pairs, functions, and data. This is the?

A. Function

B. Fractal

C. Undefined

D. Cartesian Coordinate System

7. Which symbol denotes the absolute value of a number?

A. Algebraic subtraction

B. Ratio

C. Absolute value symbol

D. Percent sign

8. If a and b are real numbers, which equation is true?

A. a - b = b - a

B. a - b = a + (-b)

C. a - b = (-a) + b

D. a - b = a * b

9. Which term refers to a collection of numbers arranged in a pattern that may extend beyond two dimensions?

A. Byte

B. Matrix

C. Array

D. Pixel

10. In algebra, you often omit writing the 1 in front of a variable. This reflects which convention?

A. Implicit coefficient of 1

B. Explicit coefficient of 1

C. Commutative convention

D. Distributive convention

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Answers

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1. D
2. C
3. D
4. A
5. D
6. D
7. C
8. B
9. C
10. A

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Explanations

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1. A collection of facts and information recorded during an experiment, from which conclusions and decisions can be made is called what?

A. Theory

B. Hypothesis

C. Model

D. Data

Data are the facts and information recorded during an experiment. They are the raw evidence you use to examine results, spot patterns, and decide what happened or what it means. Whether you're measuring lengths, temperatures, or describing how a process unfolds, those recorded observations form the basis for drawing conclusions and making informed decisions about the outcome of the experiment. A theory, on the other hand, is a well-supported explanation that ties together many observations and results. A hypothesis is a testable statement predicting what will happen under certain conditions. A model is a simplified representation or simulation of a system. While all of these are important in science, the collection of recorded observations and measurements—the data—is the direct evidence from which conclusions are drawn.

2. What term describes three-dimensional figures such as polyhedra, cones, cylinders, and spheres?

A. Plane

B. Line

C. Solid

D. Curve

Think about shapes that actually occupy space. The term for three dimensional figures like polyhedra, cones, cylinders, and spheres is solid, because these shapes enclose volume and have thickness in all directions. A plane is flat and two dimensional, a line is one dimensional, and a curve is a path that can bend but has no volume. Since the figures listed enclose space, they are all solids.

3. A pair of numbers written in a specific order used to identify a point on the coordinate plane has the form (x,y). This is called a?

A. Function

B. Indeterminate

C. Undefined

D. Ordered Pair

Think of how a point on the plane is pinpointed by two numbers in a specific order. The pair (x, y) records horizontal and vertical positions, and the order matters—swapping them gives a different point. That precise, ordered way of naming a location is what we call an ordered pair. It's not a function, since a function is a rule that assigns outputs to inputs, and a single point isn't a rule. Indeterminate or undefined describe values without a definite value, not a point on the plane.

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4. What is the formula for the circumference of a circle in terms of its radius?

A. 2πr

B. πr^2

C. πd

D. 2r

The main idea is how the circumference relates to the circle's size. The ratio of a circle's circumference to its diameter is π, so using the diameter you'd have C = πd. Since the diameter is twice the radius (d = 2r), substitute to get C = π(2r) = 2πr. That makes the form in terms of the radius clear: 2πr. The other options don't fit because πr^2 is the area, not circumference; and 2r is just a linear length without the π factor, so it doesn't wrap around the circle.

5. For a non-strict inequality such as y ≥ mx + b, the boundary line is drawn as which style?

A. Dashed

B. Dotted

C. Wavy

D. Solid

When graphing a linear inequality, the boundary is where the inequality becomes an equality: y = mx + b. If the inequality is non-strict (includes equality, like ≥ or ≤), that boundary itself belongs to the solution set, so you draw it with a solid line. If it were strict (>, <), the boundary would be non-included and drawn as a dashed line. Since the given inequality is non-strict, the boundary line is drawn solid.

6. Also called a coordinate plane, it features a horizontal x-axis and vertical y-axis and is used to graph ordered pairs, functions, and data. This is the?

A. Function

B. Fractal

C. Undefined

D. Cartesian Coordinate System

The Cartesian coordinate system is the coordinate plane with a horizontal x-axis and a vertical y-axis, and it serves as the space where you graph ordered pairs, functions, and data. It organizes points by their x and y values, letting you visualize lines, curves, and data points as they relate to each other. A function is the rule you graph on this plane, a fractal is a self-similar pattern, and undefined refers to something lacking a defined value—not the plane itself.

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7. Which symbol denotes the absolute value of a number?

A. Algebraic subtraction

B. Ratio

C. Absolute value symbol

D. Percent sign

The absolute value represents a number's distance from zero on the number line, always nonnegative, and it is shown by two vertical bars around the number: |x|. This symbol is specifically used to denote that operation. For example, |5| = 5 and |-5| = 5. The other symbols refer to different ideas: subtraction uses a minus sign, a ratio is a division relationship, and the percent sign means per hundred. So the symbol that denotes the absolute value is the absolute value symbol.

8. If a and b are real numbers, which equation is true?

A. a - b = b - a

B. a - b = a + (-b)

C. a - b = (-a) + b

D. a - b = a * b

*Subtracting a number is the same as adding its opposite. So a - b can be rewritten as a + (-b). That makes the statement true because you're just using the additive inverse of b. The other forms don't hold in general: b - a would only match a - b if a equals b; a * b changes the operation from subtraction to multiplication; and (-a) + b equals b - a, not a - b. A quick check shows the equivalence: with a=5 and b=3, a - b = 2 while a + (-b) = 2.*

9. Which term refers to a collection of numbers arranged in a pattern that may extend beyond two dimensions?

A. Byte

B. Matrix

C. Array

D. Pixel

The main idea is a structured collection of numbers that can extend beyond two dimensions. An array is exactly that: a set of numbers organized in rows and columns, and it can be extended to more dimensions, like a stack of 2D grids (a 3D array) or even higher. A matrix fits into this concept as a specific case: it's a two-dimensional arrangement of numbers. The word array is the more general term when you allow additional dimensions beyond two. In contrast, a byte is a unit of digital data, and a pixel is a picture element in an image—both unrelated to the idea of multi-dimensional number collections. So the term that best matches a collection of numbers arranged in a pattern that may extend beyond two dimensions is array.

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10. In algebra, you often omit writing the 1 in front of a variable. This reflects which convention?

A. Implicit coefficient of 1

B. Explicit coefficient of 1

C. Commutative convention

D. Distributive convention

A key convention in algebra is that a variable without an explicit coefficient implies a coefficient of 1. When you see something like x, it's understood as 1 times x, so we omit the 1 to keep expressions simple and readable. This is what the statement is capturing: the coefficient is implicit, not written out. Writing 1x is technically correct but not the usual practice because the 1 adds clutter without changing the meaning. The other ideas don't describe this notation habit—the explicit coefficient of 1 would mean you intentionally include the 1, commutative refers to the order of factors, and distributive concerns how a multiplication distributes over addition.

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Next Steps

Congratulations on reaching the final section of this guide. You've taken a meaningful step toward passing your certification exam and advancing your career.

As you continue preparing, remember that consistent practice, review, and self-reflection are key to success. Make time to revisit difficult topics, simulate exam conditions, and track your progress along the way.

If you need help, have suggestions, or want to share feedback, we'd love to hear from you. Reach out to our team at hello@examzify.com.

Or visit your dedicated course page for more study tools and resources:

https://shormannalgebraqrt1.examzify.com

We wish you the very best on your exam journey. You've got this!

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